

## Collaboration Model for ESL and Content Teachers

By Kathleen Broer

Supervised by Dr. Miles Turnbull

And Dr. Rena Helms-Park

OISE

May 2001, 2003, revised February, 2013

### **Abstract**

This study will examine strategies that ESL teachers and content teachers can use to help middle school ESL students acquire science vocabulary and meta-cognitive strategies for writing skills in non-fiction text forms.

## **Table of Contents**

### *A Collaboration Model for ESL and Mainstream Teachers*

1.1 Introduction to Case Study #1 p.4

1.2 Case Study and Rationale

1.3 Summary of Relevant Literature

1.4 Research Protocol

1.5 Summary of findings, Implications

2.1 Introduction to Case Study #2 p.12

2.2 Rationale

2.3 Summary of Relevant Literature

2.4 Research Protocol

2.5 Summary of Findings and Implications

Appendices

References

## Case Study #1: Inclusion Models: Content-Based Education and ESL resource

### 1. Introduction

Classroom realities in contemporary multilingual schools where the linguistic profiles and language learning needs of ESL students are not easily understood in terms of fixed concepts of ethnicity and language have been outlined as follows; (b) draw on recent developments in *cultural theory* to clarify the shifting and changing relationship among ethnicity, social identity, and language use in the context of postcolonial diaspora; and (c) question the pedagogical relevance of the notion of *native speaker* and propose that instead TESOL professionals should be concerned with questions about language expertise, language inheritance, and language affiliation.<sup>1</sup>

I taught (ELL) resource at a large middle school in a South Western Ontario Public School Board. Among the main language groups represented in my resource classroom were Arabic, Romanian, Hindi, Slavic languages, and German. I supported 24 students in middle school. Most of them had been living in Canada for less than 3 years. I was interested in exploring what strategies worked best to promote language learning in both the resource room and how best to support students when they integrated into a rotary schedule for math, history, geography, and other content subject areas. I needed simple and practical strategies for my ELL students to begin to negotiate their identities within the larger school culture.

#### 1.2. Case Study and Rationale

What teaching strategies worked best for Language Learners in the resource room? What teaching strategies work best for Language Learners when they are integrated on a rotary schedule? The following study examines collaborative content-based instruction models that incorporate socio-cultural awareness.

---

<sup>1</sup> Edgar, A. Cultural Theory: The Key Concepts. Oxfordshire, Routledge, 2008.  
1

### 1.3 Summary of Relevant Literature

#### 1.3.1 Fillmore and Snow (2000)

I looked at Fillmore and Snow's (2000) research which advocates for general classroom teachers to support ESL students in their classes. Fillmore and Snow suggest that today's teachers need access to a wide range of information to function well in the classroom. They argue that when the nation's teaching force is encountering an increasing number of children from immigrant families, children who speak little or no English on arrival at school, children whose families may be unfamiliar with the demands of North American schooling, the challenge to teach is even greater.

They also point out that the teaching force is not well equipped to help these children and those who speak vernacular dialects of English adjust to school and learn joyfully: too few teachers share or know about their students' cultural and linguistic backgrounds, or understand the challenges inherent in learning to speak and read Standard English.

#### 1.3.2 Short's (1994) Research on Changing Middle School Programs

Short's (1994) work focuses on changing the design of middle school programs to support English language learners. This article reports on findings from the first phase of an ongoing research project that is investigating English language learners in middle school social studies classrooms. This phase examined the academic language of history classes and implemented a series of lessons designed to integrate language and content objectives with the development of critical-thinking skills and information about the cultural diversity of colonial America. The article analyzes features of social studies academic language from text and classroom discourse and reviews cultural diversity as it is represented in popular textbooks. Also highlighted are successful strategies teachers used to facilitate students' comprehension of the subject matter and improve their academic language skills. Many of these strategies are adaptations of ELL techniques that have been applied to content-area lessons. The conclusion is that an integrated language and social studies course may be an appropriate placement for English language learners who are preparing to enter mainstream classes.

#### 1.3.3 Norris and Ortega's Research on Explicit Grammar Teaching

- 1 Norris and Ortega's (2000) research concluded that, by and large, the explicit analysis of grammar was more beneficial than the indirect, implicit treatment of grammar. More specifically, Norris and Ortega argued that: explicit types of instruction are more effective than implicit types and

2 Focus on Form (exclusive focus on meaning and content) and Focus on Forms (attention to forms in meaning-focused lessons) approaches produced similar outcomes.

The first argument supports the direct teaching of grammar and the second one specifies further that a grammatical syllabus is not necessarily a negative factor. That is, the explicit analysis of grammar can be implemented (a) through the fixed and predetermined structure of a grammatical lesson plan/syllabus, or (b) through the incidental analysis of grammar points as they arise in the context of communication or the analysis of language meaning in general.

#### 1.3.4 Sokmen's (1997) Work on Vocabulary Development

Sokmen's (1997) surveys vocabulary teaching and highlights a number of key principles:

- a build a large sight vocabulary
- b integrate new words with old
- c provide a number of encounters with a word
- d promote a deep level of processing
- e facilitate imaging
- f make new words "real" by connecting them to the student's world in someway
- g use a variety of techniques
- h encourage independent learning strategies

#### 1.3.5 Weaver and Cohen's (1996) Research on Strategies-Based Instruction

Weaver and Cohen outline a learner-centered approach to teaching that has two major components: (1) students are explicitly taught how, when, and why strategies can be used to facilitate language learning and language use tasks, and (2) strategies are integrated into everyday class materials, and may be explicitly or implicitly embedded into the language tasks. The first of these components has often stood alone as the approach when strategies are included in the language classroom. The field has referred to this approach as "strategy training," "strategies instruction," or "learner training" (cf. Chamot & Rubin 1994:771, with regard to these three terms). In a typical classroom strategy training situation, the teachers describe, model, and give examples of potentially useful strategies; they elicit additional examples from students based on the students' own learning experiences; they lead small-group/whole class discussions about strategies (e.g., the broad range of strategies).

#### 1.3.6 Legutke and Thomas' (1991) Findings on Highly Supported Whole Class Activities.

Legutke and Thomas support a theme and task-centred mode of teaching and learning which results from a joint process of negotiation between all participants. It allows for a wide scope of self-determined action for both the individual and the small group of learners within a general framework of a plan which defines goals and procedures. Project learning realises a dynamic balance between a process and a product orientation. (Legutke & Thomas 1991:160)

### 1.3.7 Freedman's (1993) Position and Gee's (1997) Answer

Freedman (1993) argues that attempts at explicit teaching of particular genres may be unhelpful, at the very least, and quite possibly detrimental. (This is, of course, except in situations where students are already or are about to become actively engaged in writing texts of a particular and limited genre). She appears to have in mind especially genres that are associated with texts of very fixed patterns or language features, and her argument draws heavily on Krashen's views regarding the limited value of explicit language instruction. However, she suggests (pp. 246-7) that teaching about and raising awareness of the importance of generic factors in general may well be of value to all writers.

Gee's (1997) common-sense argument is that it is simply sound pedagogic practice to teach learners what they need to know. She points out that if specific genres are required in order to be successful in school, then they need to be taught explicitly.

### 1.3.8 Hutchinson and Waters (1987)

Hutchinson and Waters (1987) advocate a *Learner-centred* approach. They draw a distinction between *learner-centred* and *learning-centered*. *Learner-centred* infers that learning is totally determined by the learner (and thus probably does not truly exist); whereas *learning-centred* involves learning as a “process of negotiations between individuals and society.” They incorporate Krashen's view that learners will acquire progressively fluent elements of language when they are ready.

### 1.3.9 Adger, Clair and Short: Professional Development Models for Including ESL Learners in Classroom Activities

In a three year study of professional development in a school system coping with major influxes of ESL students, (Adger, Clair and Short) brought together teams of teachers from four middle schools that had been strongly encouraged by the district administration to volunteer participation. The school teams included 7th and 8th grade English language arts teachers, ESL, and bilingual teachers, and school-based resource teachers.

Each month, beginning in November 1996, two cohorts of teacher teams from two middle schools met with LAB staff for a full day of professional development. Sessions focused on generating, discussing, and strengthening understandings in four key areas:

- standards-based reform in national and local perspective
- the Massachusetts Curriculum Frameworks for English Language

Arts and its connection to school practices

- the educational needs and strengths of English language learners, especially those related to second language acquisition and cross-cultural communication
- instructional practices that promote English language learners' achievement of standards in English language arts.

## 1.4 Problems and Possibilities

Teachers need long-term professional development to understand standards and their implications for teaching English language learners. They need time to explore attitudes about language, culture, and race that might influence their teaching of English language learners and to process new concepts and connect them to instruction. Time to explore attitudes about language, culture and race that are relevant to teaching English language learners (ELL).

The implications for instruction across disciplines remain unclear, however. Does enhanced cultural and linguistic knowledge affect teachers' attitudes in ways that widen the scope of their teaching to support second language teaching across the curriculum? If not, what supports would be required? Where do ELL students experience the most challenge in a core class? How can the ESL resource teacher best support ELL students once they move out of the resource room?

### 1.4.1 Research Protocol

Building on Gee's (1997) academic skills inventory project, I developed two surveys for rotary subject teachers to indicate where ESL students needed the most support. The first survey asked teachers to informally assess the language skills of resource students in their classes. The second survey asked teachers to rate how important specific academic skills were in their classes. It was my hope to develop a list of strategies for subject teachers who were integrating ELL students in their program.

### 1.4.2 Focus Group

This study was conducted with a group of 24 resource students between the ages of 11 and 14. Over 6 language groups are represented in the school population. Of those 24 students, 4 were stage 1, 10 were stage 2, 10 were stage 3. These students came and went from the resource room and the amount of time they spent in the room depended upon their stage. In other words, stage 1 students spent up to five or six periods each day, and were “integrated” for 2 periods a day. Stage 2 and 3 students spent 3 or 4 periods each day in the resource room and were integrated into a rotary schedule for the rest of the day.

All four stage one students had been in Canada for less than one year. Stage 2 and 3 students had conversational skills and had made cultural adjustments to life in Canada. Ten students in stage two had basic conversational skills and had begun to make adjustments to the Canadian school system, but their reading and writing skills still needed high levels of support. And finally, ten students in stage three whose oral and listening skills were developing toward fluency, needed support to gain academic reading and writing skills for high school success.

Not surprisingly, teachers found that ELL students experienced challenges in participating in class discussions, participating in small groups, formulating questions when they were confused, and were shy about talking with the teacher. Teachers found that ESL students experienced difficulties in understanding lesson material and in understanding comments and questions in class. Teachers found that ESL students had difficulty mastering vocabulary, reading fluency, and making connections between ideas and making inferences. Teachers were reluctant to assign written work to ESL students. When they did, teachers found that students had trouble with grammar, mechanics, summarizing ideas, and explaining or defining terms.

Participating in class discussions, grouping ideas, summarizing ideas, finding main ideas, using standard grammar and listing ideas in logical order were the biggest academic concerns for core teachers.

## 1.5 Implications

Hutchinson and Waters (1987) state that a needs-analysis must determine the “necessities, lacks and wants,” of learners as well as curriculum objectives. If general speaking, listening, reading, writing and academic skills are necessities for academic success in the content classes of geography, history and science, the lacks could be defined as skills, knowledge, or abilities that ELL students do not possess as determined by their content teachers. The wants arise from a comparison of the two surveys, in order to determine appropriate ELL support and program accommodation.

The greatest wants of ELL students in my school setting were as follows: ***participating in small groups, understanding lessons, reading fluency, and writing to summarize.***

Implications for instruction in both content classes and the resource room were as follows:

#### **1.5.1. Participating in small groups:**

Group work skills must be taught. Each person should have a well defined role. Keep the work “hands-on” by requiring students to perform an experiment, write on a chart, take notes in a graphic organizer. Pair new ELL students with a linguistic or academic partner.

#### **1.5.2 Understanding Lessons:**

Present information in smaller “bites” and support these “bites” of information with visual aids, using graphic organizers, picture charts, vocabulary sheets.

#### **1.5.3 Reading Fluency:**

Gather a variety of levels of reading materials when students are required to research a topic. Students may pair up when reading. Students may use the computer to translate, when necessary. Use role play to act out parts of a text, if it is a whole class reading assignment.

#### **1.5.4 Writing to Summarize:**

Teach text form vocabulary and structure. Model writing assignments for the whole class. Give immediate feedback. Encourage students to use the computer for editing.

### **1.6 Tracking Student Progress**

One measure of determining whether improved instructional strategies work over the long term can be seen in how ELL students performed on the grade 10 literacy tests (OSSLT) over time. The following table tracks student literacy test scores over time:

The results show slow improvements. Many factors impact adolescent ELL students. More study should be focussed on the transition ELL students make to high school and the best mode of

ELL program delivery. Improving instructional strategies both in the resource room and in the content classes allowed ELL middle school students to succeed in high school.<sup>2</sup>

## Case Study #2: Text Coherence and Cohesion

### 2. Introduction

#### Context

I taught in a middle school with a student population of over 300 students. Among the main language groups represented in my resource classroom were Farsi, Arabic, Kurd, Japanese, Mandarin, and variants of English. I was interested in exploring what strategies best promoted development of science vocabulary and coherence in non-fiction writing of the ELL students in my resource room.

The focus of this study will be on the intersection of the following domains: SLA research on cohesion and coherence, discourse acquisition of children in their L1 and L2, the effect of vocabulary development and text form-focussed instruction on student non-fiction writing, and the impact of **schema** theory on student decision-making during the writing process.

#### 2.1. Research Question

Does explicit instruction in connective language promote coherence and cohesion in student recall and writing in non-fiction genres such as procedure writing and description writing? How might explicit instruction relate to student decision-making while writing?

#### 2.2 Rationale

Hickman (2003) looks at how and when a range of linguistic functions relating to person, space and time are typically acquired by children in their first language, across linguistic groups. I'm interested to know if her findings might have implications for how and when to teach categories of cohesive language to second language learners for purposes that extend beyond conversation and narration to reading and writing expository texts in the content areas.

---

<sup>2</sup> Short, Deborah J., "Expanding Middle School Horizons: Integrating Language, Culture, and Social Studies," TESOL Quarterly, Vol. 28, No. 3, Autumn 1994.

### 2.3 Literature Review

In order to clarify the problems and possibilities inherent in explicit instruction in cohesion I will begin with Halliday and Hasan's work on cohesion theory (1976), summarize the main critiques of their position by various researchers, explore selected studies relating the impact of direct instruction in text form language which includes an examination of Hendrick's work on the emergence of coherence and cohesion in children's discourse across linguistic groups (2003) and outline of how cognitive or **schema theory** influences student decision-making while writing non-fiction texts.

Both resource teachers and classroom teachers in my school experienced professional development in *First Steps*, a curriculum resource that features explicitly taught non-fiction text forms. My study will examine student acquisition of two of these text forms: in particular, *Procedure writing* and *Narrative writing*. In addition to cohesion as a linguistic property, implying one can teach "text grammars" in the same way one would teach sentence grammar.

Halliday and Hasan's taxonomy of various types of cohesive ties include four main groups: 1) **reference**, including antecedent-anaphor relations, the definite article *the*, demonstrative pronouns; 2) **substitution**, including pronoun-like forms such as *one, do, so* and several kinds of *ellipsis*. If substitution is replacing one word with another, ellipsis is the absence of that word, "something left unsaid." While many sentences presuppose some prior knowledge by its audience, ellipsis requires retrieving specific information from preceding information that can be found in the text; 3) **conjunction**, involves words *like, and, but, yet*, and; 4) **lexical cohesion**, which has to do with repeated occurrences of the same or related lexical items. Halliday and Hasan have provided a foundation for subsequent discussion and debate on what makes a text a text, supporting their proposals with a comprehensive list of principles, coding schemes, and sample texts.

Much subsequent research has provided a critique to Halliday and Hasan's cohesion view of textual coherence. Feathers (1981) examines cohesion from the perspective of cohesive ties between propositional units, i.e. meaning-based connections, as opposed to simple application of cohesive language. Feathers' criticism has emerged from **schema theory** research by Bobrow and Norman (1975) which regards cohesion in the light of interaction between text and reader or listener. Schemata are models for generalized concepts underlying objects, situations, events, sequences of events, actions, and sequences of actions. Bobrow and Norman's research suggests that the mind processes information with the use of schema in order to determine which model best fits the incoming information.

Morgan and Sellner (1980) give the strongest critique of Halliday and Hasan's cohesion theory, arguing that inference and not specific cohesive language may give coherence to a text. Morgan and Sellner propose that cohesion is not a linguistic property at all but merely an epiphenomenon of coherence of content. Three empirical studies back up Morgan and Sellner's critique of Halliday and Hasan's cohesion theory:

Tierney and Mosenthal (1981), examine the correlation between the proportional use of cohesive ties to holistic coherence rankings given by instructors in their 12th grade composition classes. In student biographies there was a moderate negative correlation of cohesion and coherence ranking. In students' writing on a given theme, there was a strong negative correlation. Tierney and Mosenthal concluded that there was no causal relationship between the number of cohesive ties in a composition and coherence rankings.

Freebody and Anderson (1981) found that poverty of vocabulary, and not lack of cohesive devices was the biggest barrier to reading comprehension and, subsequently, writing cohesion.

Steffensen (1981) studied the interactive effects of both cohesive ties and cultural background knowledge on readers' processing of short prose texts. Adult subjects were asked to read two texts, one based on their own backgrounds, one based on another culture's. Not surprisingly, she found that when readers could access their cultural background knowledge and apply it to their reading, writing responses to the text were far more coherent.

Carrell (1982) reviewed Halliday and Hasan's (1976) cohesion concept as a linguistic property contributing to coherence. She related the criticism of cohesion as a measure of coherence to the teaching of reading and writing in a second language, specifically to English as an Additional Language learners. She emphasized that teaching cohesive ties to promote coherence in ESL student writing has limited value and warned that teachers and researchers should not assume that teaching cohesive ties will be a panacea for writing problems encountered by second language students-problems that are illuminated by schema-theoretical critiques of Halliday and Hasan's cohesion theory.

In a later study, Carrell (1985) explored the relationship between explicit teaching on top-level rhetorical organization of texts and college-level ELL students' reading comprehension as measured by quantity of information recalled. Her findings suggested explicit training in text forms facilitates recall of supporting detail as well as of major topics and subtopics. Carrell's (1994) work on awareness of text structure and its impact on recalling information in the text show a relationship between ELL learners' awareness of text structure, measured in two ways (as use and

as recognition) and their recall performance with two different types of expository text structures: compare and contrast and descriptions.

Her study found differences between two ways of measuring awareness, with the conscious meta-cognitive process of recognition presupposing the subconscious process of use, but not vice-versa. Results also showed that participants in the research who demonstrated awareness of structural aspects of the text through use recalled significantly more about texts they had read, particularly more top-level and high-level idea units, than participants who did not demonstrate such awareness. She concludes that reader-based formal schemata; i.e. awareness of text structure and how it is measured, interact in complex ways with text-based formal schemata ie. text structures and organization in second language reading.

Jacobs (1990) examines how students aged 10-13 acquire language in the science domain. She argued that unless students make a connection between personal, embedded, familiar language to the disembedded, academic language of scientific argumentation, they will be less likely to acquire the academic language required in the science classroom. She examines how pupils of differing abilities remember and use the structure of hypothesis, materials, procedures, observations and conclusions in their writing.

The difference between students appeared to be their ability to remember top level words (science vocabulary) and to use highly expressive, personalized language to bridge the gap between their own world and the concepts, vocabulary and structures of the world of science. She made a claim that Brinton et als' (1975) view of the value of the first, personalized language indicates that academic language and the hierarchical structure of expository prose resemble a second language for children in the elementary years. In other words, Jacobs stresses that academic language is different enough from children's personalized language that learning it poses the same challenge to a child as learning a new language, such as French.

Jacobs' (1990) findings suggest that while learning the vocabulary and textual organization of science is important in schools, it requires the use of personalized language and the familiar world as a prerequisite. In other words, children must embed meaning before dis-embedding can occur. In combination with using familiar language, seeing and touching the object of study makes the topic more real and familiar to the learner; the language provided a holding place for information that the learner can attach to newly introduced science topics and vocabulary. She warns that all too often teachers hurry to teach and measure the second before giving enough time for the first. This hurry hurts ESL students who need more time to make those connections.

Both the Jacob's study and the Carrell study examine how content-based language is acquired by slightly older language learners, touching upon two important and related issues; First, the issue of direct instruction of text form language and its role in connecting "social" language to the more "disembedded" language of science, math, social studies, for greater coherence in second language writing in the content area of science.

Hickman's (2003) comprehensive, longitudinal study of children's discourse acquisition across four linguistic groups examines both the discourse-structural aspects of narratives and discourse-cohesive aspects. Discourse structural elements of narratives are the time elements of narration. A child, demonstrating mastery over this level of cohesion, can narrate a story using all the tenses required to clearly relate each event in time. Discourse-cohesive elements in the same narration relate to the words that place each event in a sequence--for example: **so, but, and, first, then, next, after, finally.**

Her main interest is in examining available evidence concerning children's acquisition of the devices necessary for marking information status in discourse, especially the acquisition of spatio-temporal devices. She suggests that discourse-cohesive forms of language occur rather late in a child's development, in a natural progression from earlier deictic uses anchored in the immediate situation. Furthermore, she has found that the complex interplay of syntactic, semantic, and pragmatic functions of these forms is not mastered until much later during the course of development, usually between the ages of 7 to 10 years.

This research has implications for when it is possible for young second language learners to acquire specific linguistic devices necessary for the development of coherence and cohesion in science vocabulary and science writing tasks.

#### 2.4 Summary of Findings and Proposals for Further Study

The body of research on cohesion and coherence in second language learner's reading and writing suggest many factors contribute to the development of and interplay between cohesion and coherence; inference, schemata, meaning-based ties between idea units, cultural background and vocabulary all have a role to play in the complex and overlapping relationship between cohesion and coherence.

Almost all of the studies cited here examine the issues of coherence and cohesion in older native or second language learner's reading and writing, with the exception of Hickman's work on discourse development in young children. Hendricks' research on discourse acquisition of children

would suggest that native-speaking children across linguistic groups acquire specific linguistic competencies that lead to discourse coherence between the ages of 7 and 10.

Although Carrell suggest that connective language alone is not enough to promote coherence.. In a later study Carrell (1985) explored the relationship between explicit teaching on top-level rhetorical organization of texts and college-level ESL students' reading comprehension as measured by quantity of information recalled. Her findings suggested explicit training in text forms facilitates recall of supporting detail as well as of major topics and subtopics. Carrell's (1994) work on awareness of text structure and its impact on recalling information in the text show a relationship between ESL learners' awareness of text structure, measured in two ways (as use and as recognition) and their recall performance with two different types of expository text structures: *compare and contrast and descriptions*.

Her study found differences between two ways of measuring awareness, with the conscious meta-cognitive process of recognition presupposing the subconscious process of use, but not vice-versa. Results also showed that participants in the research who demonstrated awareness of structural aspects of the text through use recalled significantly more about texts they had read, particularly more top-level and high-level idea units, than participants who did not demonstrate such awareness. She concludes that reader-based formal schemata; i.e. awareness of text structure and how it is measured, interact in complex ways with text-based formal schemata i.e. text structures and organization in second language reading.

Jacobs (1990) examines how students aged 10-13 acquire language in the science domain. She argued that unless students make a connection between personal, embedded, familiar language to the disembedded, academic language of scientific argumentation, they will be less likely to acquire the academic language required in the science classroom. She examines how pupils of differing abilities remember and use the structure of **hypothesis, materials, procedures, observations and conclusions** in their writing.

The main difference between students appeared to be their ability to remember top level words (science vocabulary) and to use highly expressive, personalized language to bridge the gap between their own world and the concepts, vocabulary, and structures of the world of science. She made a claim that Brinton et als' (1975) view of the value of the first, personalized language indicates that academic language and the hierarchical structure of expository prose resemble a second language for children in the elementary years. In other words, Jacobs stresses that academic language is different enough from children's personalized language that learning it poses the same challenge to a child as learning a new language, such as French.

Jacobs' (1990) findings suggest that while learning the vocabulary and textual organization of science is important in schools, it requires the use of personalized language and the familiar world as a prerequisite. In other words, children must embed meaning before dis-embedding can occur. In combination with using familiar language, seeing and touching the object of study makes the topic more real and familiar to the learner; the language provided a holding place for information that the learner can attach to newly introduced science concepts and vocabulary. She warns that all too often teacher hurry to teach and measure the second before giving enough time for the first. This hurry hurts ESL students who need more time to make those connections.

Both the Jacobs study and the Carrell study examine how content-based language is acquired by slightly older language learners, touching upon two important and related issues: *First*, the issue of direct instruction of text form language and its role in coherent recall of reading of material by second language learners, and *second*, the role of connecting "social" language to the more "disembedded" language of science, math, social studies for greater coherence in second language writing in the content area of science.

Hickman's (2003) comprehensive, longitudinal study of children's discourse acquisition across four linguistic groups examines both discourse-structural aspects of narratives and discourse-cohesive aspects. Discourse structural elements of narratives are the time elements of narration. A child, demonstrating mastery over this level of cohesion, can narrate a story using all the tenses required to clearly relate each event in **time**. Discourse-cohesive elements in the same narration relate to the words that **place** each event in a sequence in ELL student's writing, I've proposed and conducted a study that examines why explicit teaching of connective language is still useful in primary, junior and intermediate ELL reading and writing programs, bearing in mind Hickman's findings on when children typically acquire specific linguistic forms.

Building on Carrell's 1985 and 1994 studies on explicit instruction on expository text language and its effects on recall, I've designed a similar study on the relationship between explicit teaching of expository text form language (vocabulary), reading comprehension in the content areas and coherence in written responses, such as procedure writing.

## 2.5. Research Plan

### Participants and Materials

This study was conducted with students in grade 7 and 8. Students were immersed in the language, content and hands-on tasks of a science unit on water. First and second stage English learners were given pre and post assessments, concept webs, vocabulary development sheets,

chances to draw vocabulary and concepts and sentence stems in their notebooks to help prompt them in their writing. The recall task and identification of text vocabulary and form were also part of a normal learning cycle in the resource room.

## 2.6 Procedures

*Recalls:* The students were given test booklets containing two passages. Immediately after reading each passage, the students were asked to write down as much as they could remember from the passage, without referring to the passage. The students were also encouraged to use complete sentences, and to use the words in the passage or their own words.

*Awareness Measures:* Two measures were taken of participants' awareness of text structure. The first, and most widely used measure (Heibert, Engliert and Brennan, 1983); (Richgels, McGee, Lomax and Sheard, 1987), were a measure of the organization used in the recall. Greater meta-cognitive awareness of text structure was demanded of ELL students who were asked to respond to an open-ended question: "What plan did the writer use?" For the purposes of making the task more concrete I added the sentences: "Circle the vocabulary words you remember. Tell me what kind of information text was used."

## 2.7 Assessment

I saw my students each day. As an ESL resource teacher, it was my role to support students in their vocabulary development and assist them with at level reading and writing assignments. My role was to be a resource and a support to my students' language development and to develop awareness amongst classroom teachers about the 4 stages of language acquisition they would see in the English language learners in the classroom. I advised classroom teachers on the stages the ESL student was speaking, listening, reading and writing in English.

For *stage 1* students, the challenge of learning text form vocabulary was extremely challenging. To support this task I used hands-on activities, picture dictionaries, diagrams, photos and sentence stems to prompt writing tasks. Team teaching that focussed on text forms across grade levels allowed ELL students to develop mastery of text structures and vocabulary over several teaching cycles. This approach scaffolded content language learning for stage 1 and stage 2 ESL students.

## 2.5 Data Analysis

Although *stage 1* English language learners may not have had enough English reading and writing skills to accomplish the recall and vocabulary recognition task easily, they demonstrated

long term benefits of explicit text form instruction in acquiring fluency in non-fiction reading and writing skills over two teaching cycles.

## 2.6 Summary of Findings

Freebody and Anderson (1981) found that poverty of vocabulary, and not lack of cohesive devices was the biggest barrier to reading comprehension and, subsequently, writing cohesion. I have demonstrated that although *stage 1* students had difficulties in performing the Recall and Vocabulary Recognition tasks successfully, ongoing teaching and assessing of Text Forms suggests that higher quality of input early in their English language development can have positive effects in their acquisition of reading and writing forms of subject area vocabulary in the long run.

## 2.7 Implications

These results speak to the success of long-term team teaching professional development in writing instruction using a curriculum that emphasizes vocabulary development and structural awareness of texts in reading and writing assignments. Support for language and cultural awareness allows ELL students to integrate their own stories with the texts they read. Close collaboration between home room teachers and ELL teachers achieve the best results.

## Appendix

### 1.4.3 Assessment of English Language Acquisition of students in the ESL program (Assessment by the board ESL consultant)

Stage 1 -	Stage 2 -	Stage 3-	Stage 4
Stage 1 -beginning oral, listening, reading and writing skills in basic English	Stage 2 -emerging oral, listening, reading and writing skills in basic English	Stage 3-developing oral, listening, reading and writing skills in basic English	Stage 4-near fluent oral, listening, reading and writing in basic English
4/24	10/24	10/24	20 students on monitor

#### 1.4.a Teacher Assessment of Language Skills of ESL students in core Subjects

##### A. **Speaking** Skills Assessment

	Often	Moderately Often	Sometimes	Minimally/Never
1. Participating in class discussion	.25	.62		
2. Participating in small groups	.12	.37	.37	.12
3. Formulating Questions Clearly		.5	.5	
4. Responding to Questions	.12	.25	.62	
5. Interacting with the teacher: comments or questions	.12	.12	.75	
6. Giving oral presentations/pronunciation	.25	.25	.25	.25

#### 1.4.b. **Listening** Skills Assessment

	1. Often	2. Moderately Often	3. Sometimes	4. Minimally/Never
1. Following Oral Dictation	.27	.37	.37	.37
2. Understanding Lessons	.12	.12	.75	
3. Understanding Comments/Questions in class	.12	.12	.62	.12
4. Understanding Films or Videos		.25	.12	.37

#### 1.4.c Reading Skills Inventory

	Often	Moderately Often	Sometimes	Minimally	Never
1. vocabulary	.25	.25	.5		
2. Reading fluency	.25	<b>.5</b>	.25		
3. Making connections between ideas	.25	.25	.5		
4. Distinguishing facts from opinions	.12	.37	.12	.37	
5. Interpreting Charts and Graphs		<b>.37</b>	.25	.37	
6. Making inferences	.25	<b>.75</b>			
7. Understanding bias	.25	.25	.25	.12	.12

#### 1.4.d Writing Skills Inventory

	1.Often	2. Moderately Often	3.Sometimes	4.Minimally	5. Not Applicable
Grammar	.37	.25	.37		
Mechanics	.25		.75		
Paragraph Form	.12	.24	.12		.5
Organization of Ideas		.24	.5	.25	
Paragraph Development		.37	.12		.5
Clearly stating main ideas	.12	.12	.5		.25
Using specific supporting Details		.37	.12	.37	.25
Summarizing	.12	.12	.75		
Explaining or Defining Terms	.12	.12	.75		
Comparing and contrasting	.25	.25		.12	.37
Arguing a point	.12	.12	.37		.37
Describing events in order		.12	.37	.25	.25
Showing cause and effect	.12	.25	.25	.12	.25
Classifying or Grouping Ideas	.12	.25	.37	.12	.25
Paragraph Form	.12	.24	.12		.5

#### 1.4.e Teacher Assessment of Academic Skills of ESL students in core Subjects:

##### Academic Skills: Degree of Importance

	1. Low	2. moderate	3. moderately high	4. High	5. not applicable

How important is contributing to class discussions.			<b>.55</b>	<b>.44</b>	
Participating in class discussions?	.22	<b>.33</b>	.44		
Asking questions?	.11	<b>.55</b>	<b>.33</b>		
Giving oral presentations?	.55	.11	.11		
Finding main ideas?	.11	.33	<b>.55</b>		
Finding details?	.11	.22	.33	.33	
Writing paragraphs?	.11	.44	.33	.11	
Writing to persuade?	.33	<b>.44</b>		.22	
Comparing and contrasting?	.11	.11	<b>.44</b>	.22	.11
Describing?	.11	.33	<b>.44</b>	.11	
Explaining events in logical order?		.33	<b>.55</b>	.11	
Showing cause and effect?	.11	.11	<b>.44</b>	.22	.11
Grouping ideas?				<b>.55</b>	.11
Analyzing/ summarizing	.11	.11	.11	<b>.77</b>	.11
Reading critically?	.22	.33	.22	.22	

## Appendix 2.

### Differentiated Instruction for Understanding World Issues: Clean Water, Water Conservation

#### Picture Book Resources for Science Units at Middle School Level:

##### *The Environment/Pollution/Ecology/Conservation*

Oil Spill!, TD427 .P4B46 P-I

The Lorax, PZ7 .S487 E

Mr. Noah and the Second Flood, PZ7.B9342

Lockie Leonard, Scumbuster, PZ7 .W7683 I-JH

The Last Bit-Bear : a Fable, PZ7 .R56758

Just a Dream, PZ7 .V266 E

The Great Kapok Tree : a Tale of the Amazon rain forest, PZ7 .C4199 E

The Sea, the Storm, and the Mangrove Tangle, PZ7 .C41995 P-I

Planet Earth: 25 Environmental Projects You Can Build Yourself

Janice Van Cleave's Science Experiment Book Series

Film: Water Pollution (National Geographic) 2010, 08NG12172

## 2.6.2 Metacognitive Awareness of Text Forms and Language

The second score for student meta-cognitive awareness was given for whether or not a student could understand and use science vocabulary, and name the vocabulary and text form of science texts.

### 2.6.4 Four Kinds of Information Text

<b>How to Books (Recount and Procedure)</b> <b>first, then, next, after, finally</b> For example: <i>Describing the water cycle</i> Write a science report	<b>Same and Different Chart:</b> ( <i>compare and contrast</i> ) <b>the same as, different than, and, or</b> How is liquid different than air?
<b>Reports (Descriptive--"How To")</b> <b>in, out, beside, above, below, next to, in front, behind</b> Write instructions in how to install a water filter.	<b>Opinion Letters (Persuasion)</b> <b>agree, disagree, for example, in conclusion</b> What can we do to keep our water supply clean?

#1. **Recount:** Water Cycle Informational text using *first, then, next, after, finally* vocabulary

*First*, water **evaporates** continuously from **surface** of oceans, seas, rivers, lakes and **vegetations** on land into the **atmosphere** due to heat of the Sun.

*Second*, the **vapor** rises upwards and **forms cloud** in the sky by **mixing** with **dust particles**.

*Next*, the clouds are carried by **air currents**.

*Then*, when **cooled**, **water droplets** come down as rain.

*After this*, the rain water falls back into rivers and sea.

*Finally*, this **circulation** of water from the earth's surface to the atmosphere and back to the earth is called water cycle.



**Appendix**  
**Building Academic Vocabulary: Marzano & Pickering**

Term:	My Understanding:	1   2   3   4
Describe:		
Draw:		



W

**B. Choose any four of the list words and describe what they mean  
by writing about them or drawing pictures.**

Word 1: _____	Word 2: _____
Word 3: _____	Word 4: _____

**Rubric of DI Student Product - The Kapok Tree****Rubric For Differentiated Instruction Product, Grade 8**

Theme: Synthesizing

Name: \_\_\_\_\_ Product Choice: \_\_\_\_\_

Criteria	Level 1	Level 2	Level 3	Level 4
<b>Knowledge/Understanding</b> Knowledge of text/article/ vocabulary word.	Demonstrates limited knowledge of text/article/ vocabulary word.	Demonstrates some knowledge of ... text/article/ vocabulary word.	Demonstrates considerable knowledge of ... text/article/ vocabulary word.	Demonstrates a high degree of knowledge of ... text/article/ vocabulary word.
<b>Thinking and Investigation</b> Use of information processing skills and strategies: - Gathers relevant evidence and data from multiple sources - Uses synthesizing skills	Gathers, from multiple sources, evidence and data that have limited relevance.	Gathers, from multiple sources, evidence and data that have some relevance.	Gathers, from multiple sources, evidence and data that have a considerable relevance.	Gathers, from multiple sources, evidence and data that have a high degree of relevance.
<b>Communication</b> Expression and organization of ideas and information	Organizes and expresses researched information on "No Limits articles" with limited effectiveness.	Organizes and expresses researched information on "No Limits articles" with some effectiveness.	Organizes and expresses researched information on "No Limits articles" with considerable effectiveness.	Organizes and expresses researched information on "No Limits articles" with a high degree of effectiveness.
Accommodations/Modifications:				
Notes:				

St. Wilfrid's Catholic School  
Language and Science

Figure 2.6.4g Vocabulary Awareness: First and Second Teaching Cycle

Top 3 out of 20 students	High 4 out of 20 students	mid 10 out of 20 students	Low 3 out of 20 students
<b>-could identify vocabulary and text form accurately</b>	<b>-could identify vocabulary and text form in most cases</b>	<b>-could identify vocabulary and text forms moderately well</b>	<b>-could identify little vocabulary</b>
Top 5 out of 20 students	High 5 out of 20 students	Mid 8 out of 20 students	Low 2 out of 20 students
<b>-could identify vocabulary and text form accurately</b>	<b>-could identify vocabulary and text form in most cases</b>	<b>-could identify vocabulary and text forms moderately well</b>	<b>-could identify little vocabulary</b>

2.6.4a The Recall Passage:*#1. Water Cycle Informational text using first, then, next, after, finally vocabulary*

*First, water **evaporates** continuously from **surface** of oceans, seas, rivers, lakes and **vegetations** on land into the **atmosphere** due to heat of the Sun.*

*Second, the **vapor** rises upwards and **forms cloud** in the sky by mixing with **dust particles**.*

*Next, the clouds are carried by **air currents**.*

*Then, when **cooled**, **water droplets** come down as rain.*

*After this, the rain water finds its way back into rivers and sea by completing the **water cycle**.*

*Finally, this **circulation** of water from the earth's surface to the atmosphere and back to the earth is called water cycle.*

*The recall is tested after students work with vocabulary and diagrams.*

#2. *Opinion Letter text on keeping our water supply clean using persuasive text vocabulary.*

2.6.4b The results of the recall and the text vocabulary tasks were as follows:

Profile of the resource ESL student sample:

Stage 1 4 out of 20 students	Stage 2 6 out of 20 students	Stage 3 10 out of 20 students	Stage 4
<b>oral and listening skills in English developing reading or writing skills are minimal</b>	<b>oral, listening skills are at the basic level, reading and writing skills emerging</b>	<b>oral, listening skills in English are nearing fluency and reading and writing skills are developing well</b>	

Figure 2.6.4c **Results of Student Recall**--first teaching cycle

<b>Top 1 out of 20</b>	<b>High 1 out of 20</b>	<b>Mid 17 out of 20</b>	<b>Low 1 out of 20</b>
-the student sample contained all main ideas and all related details.	-major ideas and details were recalled and written.	-major ideas and details were recalled and written.	-minor details in the passage were recalled and written

Figure 2.6.4d **Results of Student Recall**--second teaching cycle

<b>Top 5 out of 20</b>	<b>High 4 out of 20</b>	<b>Mid 10 out of 20</b>	<b>Low 1 out of 20</b>
-the student sample contained all main ideas and all related details.	-major ideas and details were recalled and written.	-major ideas and details were recalled and written.	-minor details in the passage were recalled and written

## References

Benedetti, Teresa. "Enhancing Teaching and Teacher Education With Peer Coaching," **TESOL Journal**, Vol. 7, No.1, F 1997.

Broer van Arragon, Kathleen. "Research Writing in Junior Language Arts Programs," FWTAO Newsletter, January/February, 1994.

Broer van Arragon, Kathleen. "Multi-Cultural Folk Songs: Language Awareness Resources for the Socio-cultural Curriculum." Working Paper and Graduate Forum Presentation TESOL, Baltimore, 2003.

Clair, Nancy and Adger, Carolyn Temple., "Professional Development for Teachers in Culturally Diverse Schools." **Eric Digest**, October 1999.

Feuerverger, Grace. *Teaching, Learning and Other Miracles: Transgressions- Cultural Studies and Education*. Sense Publishers: Rotterdam, Netherlands, 2007.

Fillmore, Lily W., and Snow, Catherine E. "What Teachers Need to Know About Language," August 2000.

Holmes, K., Rutledge, S., & Gauthier, L. (2009). *Understanding the cultural-linguistic divide in american classrooms: Language learning strategies for a diverse student population*. Reading Horizons, 49(4), 285-300. Retrieved February 1, 2010, from ProQuest Education Journals.

Krashen, S.D. (1989), "We Acquire Vocabulary and Spelling by Reading: Additional Evidence for the Input Hypothesis", *The Modern Language Journal*, 73, pp. 440-464.

Mussen, P. (ed.), "Piaget's Theory," in *Handbook of Child Psychology*, Vol. 1. (4th ed., New York: Wiley, 1983).

Peel Board of Education. (1997). ESL Instruction and Assessment Strategies Handbook: Grades 1-6.

Richard-Amato, P., Snow, Margerite A. The Multicultural Classroom: Readings for Content-Area Teachers. Longman Publishing Group: 1992.

Short, Deborah J., "Expanding Middle School Horizons: Integrating Language, Culture, and Social Studies," TESOL Quarterly, Vol. 28, No. 3, Autumn 1994.

Short, Deborah J. and Echevarria, J. (1999). *The sheltered Instruction Observation Protocol: A Tool for Teacher-Research Collaboration and Professional Development*. Center for Research on Education, Diversity and Excellence: Needham Heights, MA: Allyn and Bacon.

Snow, Marguerite A. and Brinton, Donna, M., The Content-Based Classroom: Perspectives on Integrating Language and Content. Addison Wesley Longman Publishing Company: 1997.

TESOL, 1999, *Scenarios for ESL Standards-based Assessment (Draft)*.

Zuniga-Hill, Carmen, Yopp, Ruth Helen. "Practices of Exemplary Elementary School Teachers of Second Language Learners," **Teacher Education Quarterly**, Winter 1996.

## 2.9 References

Bamberg, B. (1984). Assessing coherence: A re-analysis of essays written for the National Assessment of Educational Progress, 1969-1979. *Research in the Teaching of English*, 18: 305-319.

D. Bobrow and D. Norman (1975). *Some Principles of Memory Schemata*. In Representation and Understanding. New York: Academic Press.

Bos, C.S. (1991). Reading-writing connections: Using literature as a zone of proximal development for writing. *Learning Disabilities Research and Practice* 6 (4): 251-256.

Brinton, D., Snow, M., and Wesche, M. (1989). Content-based Second Language Instruction. Carrell, P. (1994). Awareness of Text Structure: Effects on Recall. In a. H. Cumming, Ed, Bilingual Performance in Reading and Writing. Research Club In Language Learning, OISE.

Feathers, K. (1981). *Text unity: A semantic perspective on mapping cohesion and coherence*. Indiana University.

Barnes, Barrs, et al, 1995. First Steps into Literacy: A Support Document for Literacy. Education Department of Western Australia; Halliday, Holdaway; New York, NY: John Wiley & Sons, Inc.

Freebody, P and Anderson. (1981). Vocabulary knowledge. In J. Guthrie (ed.),

Comprehension and Teaching: Research Reviews (pp. 77-117). Newark, DE: International Reading Association.

Halliday, M., and Hasan, R. (1976). Cohesion in English. London: Longman Group Ltd.

Heibert and als. (1983) Using Video Surveys to Compare Classrooms and Teaching Across Cultures: Examples and Lessons From the TIMSS Video Studies EDUCATIONAL PSYCHOLOGIST, 35(2), 87-100.

Hickman, Maya. (2003). *Children's Discourse: Person, Space and Time Across Languages*. Cambridge University Press, Cambridge, UK.

Krashen, S. (1985) Input Hypothesis: Issues and Implications. New York: Longman.

Mandler, J. (1978). A. Wiley. Code in the node: The use of a story schema in retrieval. Discourse Processes, 1, pp. 14-35.

Meyer, D. E. (1975). Long-term memory retrieval during the comprehension of affirmative and negative sentences. In R. A. Kennedy & A. Wilkes (Eds.), *Studies on long-term memory*(pp. 289-312). New York: Wiley.

Meyer, B.J.F. (1975). The Organization of Prose and Its Effects on Memory. Amsterdam, North Holland.

Meyer, B. J. F., & Freedle, R. O. (1984). Effects of discourse type on recall. American Educational Research Journal, 21, 121-143.

Morgan, R.L. and Sellner, T.S. (1980) Discourse and linguistic theory. In R.J. Spiro, B.C. Bertram and Associates.

Peel District School Board, (2000). English as a Second Language and English Skills Development. *A Resource Manual for Elementary Schools*. Program Services.

Richgels, D., McGee, L., Lomax, R., & Sheard, C. (1987). Awareness of four text structures: Effects of recall of expository text. Reading Research Quarterly, 22, 177-196.

Steffensen, M. S. (1981). Register, cohesion and cross-cultural reading comprehension (Tech. Rep. No. 220). Champaign, IL: University of Illinois, Center for the Study of Reading.

Steffensen, M. S., & Colker, L. (1982). The effect of cultural knowledge on memory and language (Tech. Rep. No. 248). Champaign, IL: University of Illinois, Center for the Study of Reading.

Steffensen, M. S., Joag-Dev, C., & Anderson, R. C. (1979). A cross-cultural perspective on reading comprehension. *Reading Research Quarterly, 15*, 10-29.

Tierny R, and Mosenthal, J. (1983). Cohesion and Textual Coherence. *Research in the Teaching of English, 17*: 215-229.

Wolfram, W., Adger, C. T., and Christian, D. (1999) *Dialects in Schools and Communities*, TESL-EJ, Vol.4, No. 1, Mahwah, NJ: Lawrence Erlbaum Associates.